

## CLAIMS

1. A continuous ink jet printer, comprising:
  - a first ink jet printing nozzle for a first color positioned to deposit ink drops on a substrate,
  - a first deflection element located proximate an output trajectory of the first ink jet printing nozzle and operative to deflect the ink drops in a swathed pattern as they are deposited on the substrate by the first ink jet printing nozzle,
  - a second ink jet printing nozzle for the first color positioned to deposit ink drops on the substrate,
  - a second deflection element located proximate an output trajectory of the second ink jet printing nozzle and operative to deflect the ink drops in a swathed pattern as they are deposited on the substrate by the second ink jet printing nozzle, and
  - interleaving logic operative to provide interleaved print data to interleave at least one deflected drop from the first ink jet printing nozzle with a plurality of deflected drops from the second ink jet printing nozzle in parallel offset rasters.
2. The continuous ink jet printer of claim 1 wherein the interleaving logic includes horizontal interleaving logic.
3. The continuous ink jet printer of claim 2 wherein the interleaving logic includes vertical interleaving logic.
4. The continuous ink jet printer of claim 1 wherein the interleaving logic includes vertical interleaving logic.
5. The continuous ink jet printer of claim 1 further including a processor portion operative to drive the printer to print half-tone images on a print substrate.
6. The continuous ink jet printer of claim 1 wherein the print substrate is a printing plate.

7. The continuous ink jet printer of claim 1 wherein the deflection element is one of a pair of deflection electrodes.

8. The continuous ink jet printer of claim 1 further including swathing logic that includes a series of different firing order entries that define different deflection amounts for at least one of the deflection elements.

9. The continuous ink jet printer of claim 1 further including halftone screening logic and wherein the first and second ink jet printing nozzles are responsive to the halftone screening logic.

10. The continuous ink jet printer of claim 1 wherein the first ink jet printing nozzle and the second ink jet printing nozzle are both located on a same print head.

11. The continuous ink jet printer of claim 1 wherein the first and second ink jet printing nozzles are spaced along a direction of rotation of a drum.

12. The continuous ink jet printer of claim 1 wherein the interleaving logic is operative to cause the first and second ink jet printing nozzles to print simultaneously.

13. The continuous ink jet printer of claim 1 wherein the interleaving logic is operative to cause the first and second ink jet printing nozzles to print drops interleaved with each other during a same pass.

14. The continuous ink jet printer of claim 1 wherein the interleaving logic is operative to cause the first and second ink jet printing nozzles to print drops interleaved with each other during different pass.

15. The continuous ink jet printer of claim 1 wherein the interleaving logic is operative to cause the first and second ink jet printing nozzles to print drops interleaved with each other during a same revolution.

16. The continuous ink jet printer of claim 1 wherein the interleaving logic is operative to cause the first and second ink jet printing nozzles to print drops interleaved with each other during different revolutions.

17. The continuous ink jet printer of claim 1 further including a substrate feed mechanism to feed the substrate.

18. The continuous ink jet printer of claim 1 wherein the substrate feed mechanism includes a drum.

19. The continuous ink jet printer of claim 18 wherein the first and second ink jet printing nozzles are in a series of nozzles spaced along a direction of rotation of the drum.

20. The continuous ink jet printer of claim 1 wherein the substrate feed mechanism includes a platen.

21. The continuous ink jet printer of claim 1 further including self-interleaving logic operative to further interleave deflected drops from at least one of the first and second ink jet printing nozzles with other deflected drops from that same nozzle.

22. A continuous ink jet printing method, comprising:  
firing a first stream of ink drops,  
deflecting drops in the first stream to create a first swathed deposition pattern,  
firing a second stream of ink drops, and  
deflecting drops in the second stream to create a second swathed deposition pattern  
interleaved with the first swathed deposition pattern.

23. The method of claim 22 wherein the steps of firing a first stream and firing a second stream take place simultaneously.

24. The method of claim 22 wherein the steps of firing a first stream and firing a second stream deposit the drops on a drum according to a helical progression over a plurality of revolutions.

25. A continuous ink jet printer, comprising:  
means for firing a first stream of ink drops,  
means for deflecting drops in the first stream to create a first swathed deposition pattern,  
means for firing a second stream of ink drops, and  
means for deflecting drops in the second stream to create a second swathed deposition pattern interleaved with the first swathed deposition pattern.

26. The continuous ink jet printer of claim 25 further including swathing means that include a series of different firing order entries that define different deflection amounts for at least one of the means for deflecting.

27. The continuous ink jet printer of claim 25 further including halftone screening means and wherein the means for firing are responsive to the halftone screening means.

28. The continuous ink jet printer of claim 25 further including means for feeding a substrate to be printed on by the continuous ink jet printer.